29. Harley Shaiken with Stephen Herzenberg, *Automation and Global Production: Automobile Engine Production in Mexico, the United States, and Canada*, University of California—San Diego, Center for U.S.-Mexican Studies, Monograph Series, 26 (San Diego, 1987).

30. See Clement et al., *Maquiladora Resource Guide*, pp. 13, 17; "Mexico: A New Economic Era," *Business Week*, November 12, 1990, pp. 105, 108; Japan Ministry of Finance, *Monthly Finance Review*, June 1990 (no. 204), p. 24; "Japan and Mexico Building Stronger Economic Bridge," *Los Angeles Times*, June 18, 1990, pp. D1, D7; Gabriel Szekely, "The Pacific Triangle: Japan, Mexico and the U.S.," presentation to the Mexico Forum at The RAND Corporation, Santa Monica, Calif., December 5, 1990.

31. "U.S.-Mexico Trade Talks May Hurt Japan," *Wall Street Journal*, November 12, 1990, p. A9D; see also Gabriel Szekely and Donald Wyman, "Japan's Ascendance in U.S. Economic Relations with Mexico," *SAIS Review*, vol. 8, no. 1 (Winter-Spring 1988), pp. 171-188; and *Maquiladora Impact on U.S. Jobs and Trade Competition With Japan*, hearing before a subcommittee of the Committee on Government Operations, U.S. House of Representatives, 100th Congress, 1st Session, June 12, 1987.

4/ How "Japanese" Are California's Japanese-Owned Plants?

In the popular imagination and in the management literature and media representations that feed it, Japanese management is associated with efficient, "lean" production and with a variety of mechanisms designed to foster worker participation in decision-making. Raw materials and parts are delivered "just-in-time" for their use in the production process; workers meet in quality circles or similar small groups to discuss problems that were traditionally in the managerial domain; manual jobs are rotated among teams of workers to encourage a flexible, multiskilled workforce; workers enjoy a high degree of job security, perhaps even approximating "lifetime employment"; and so forth. These are indeed characteristic features of industrial management in large firms in Japan, and they have been successfully transplanted to some Japanese-owned firms in the U.S. as well. However, the research conducted for this study suggests that Japanese-owned factories in California more often resemble traditional American nonunion manufacturing than they do this "Japanese" model.

Most of the plants I visited are run on a day-to-day basis by a "localized" management staff of native-born Americans rather than by Japanese nationals; the latter are relatively few in number and typically concentrated at the top levels of the managerial hierarchy. The Japanese parent firms hire these American managers to run their California branch plants in conformity with

conventional American managerial practices—particularly those developed by nonunion manufacturing firms in the postwar period. Many of the managers I interviewed were not even familiar with basic "Japanese" management techniques, and very few were actually using such techniques. All this is rather ironic in view of the fact that many old-line American companies have invested considerable resources in imitating the Japanese model in recent years.

As Robert E. Cole pointed out long ago, commentators on Japanese industrial relations have tended to characterize it either as "culturally unique" or, at the other extreme, as increasingly Westernized, reflecting a process of convergence among all industrial societies.[1] Developments in the 1980s added a new twist to that old debate. Whereas previously attention was focused on the ways in which Japan was becoming more like the U.S. and other Western nations, recent analyses are concerned with the degree to which the Japanese management model, which now appears vastly superior to that of the West, can be transferred successfully to other nations. In fact, many elements of that model, such as the "just-in-time" inventory system and the use of quality circles, are inspired by ideas originally developed in the U.S. (if seldom systematically applied there).[2] Nevertheless, during the 1980s, as consciousness of Japan's industrial success began to spread, many commentators on this side of the Pacific presumed that the "Japanese" management system was something culturally indigenous to Japan, or at least to Asia, and not readily transferable to the U.S.

No one can sustain that claim today, in view of the success of NUMMI and the other Japanese "transplants" in the auto industry, which have demonstrated that the Japanese model is in fact perfectly viable with a U.S. workforce, even a unionized one. At NUMMI, in Fremont, California, thousands of UAW members previously employed by General Motors—the paradigmatic example of American-style management—now work under the "Toyota production system."[3] Opened in 1984 in a plant GM had closed in 1982, NUMMI quickly achieved levels of productivity and quality superior to any other U.S. auto assembly plant, with quality equal to that of Toyota's plants in Japan and productivity only slightly lower.[4] Under the joint venture agreement, Toyota took charge of running the NUMMI plant, while GM was responsible only for marketing its share of the cars produced. (The only

aspect of the operation that has been problematic is the marketing!) In terms of its work organization, NUMMI is now a major showcase for the just-in-time system and other features of the Japanese model, and has been widely imitated by the U.S. Big Three automakers.

The NUMMI story is now well-known in management circles, partly thanks to a team of MIT researchers who popularized it in their recent book on the world automobile industry. They point out that it is somewhat misleading to refer to the NUMMI system of work organization as "Japanese," since there is significant variation within Japan, as well as in other countries, in the degree to which what they call "lean production" is actually carried out."[5] Other recent research suggests that lean production is transferable not only to advanced capitalist economies like the U.S. but also to such newly industrializing countries as Mexico. For example, one U.S.-owned auto plant in Mexico (producing Japanese-designed cars) using the lean production system has achieved productivity and quality levels comparable to those of NUMMI and other U.S. transplants.[6]

A variety of terms has been used to distinguish the system of work organization perfected by the Japanese from its predecessors. Many commentators continue to speak of "American" and "Japanese" management, despite the rapidly accumulating evidence that both systems can be transplanted successfully across national boundaries. The MIT auto study constructs the distinction as one between "lean production" and "mass production," while others speak of "Fordism" versus "Toyotism." The latter is also referred to as the "team concept" by some authors, or simply as "post-Fordism."[7] Whatever the terminology, the basic distinction in terms of work organization is between a system based on highly centralized management decision-making with minimal worker participation and minimal trust between labor and management, and a high-trust system with extensive worker participation. Columns A and C in Figure 3 shows some key features of the two systems.

The prototype for both systems is the auto industry (hence the use of such terms as "Fordism" and "Toyotism"), which is widely seen as the model for work organization in large manufacturing firms generally. Other than the high degree of centralization of decision-making and the correspondingly low level of worker participation, the Fordist mass production system

Figure 3

Three Models of Work Organization and Industrial Relations

	A	B	C
	"AMERICAN"/ FORDISM/ MASS PRODUCTION	AMERICAN NONUNION INDUSTRIAL RELATIONS	"JAPANESE" TOYOTISM/ POST-FORDISM/ LEAN PRODUCTION "TEAM CONCEPT"
CENTRALIZATION OF DECISION-MAKING	highly centralized no worker input poor communications	some worker participation & communication	extensive worker participation (QCs) & communication
FLEXIBILITY/ SPECIALIZATION	deskilled, rigid job classifications low flexibility	some flexibility	deskilled but jobs are rotated, "teamwork," high flexibility
PAYMENT SYSTEM	job-based	job & seniority	seniority-based
JOB SECURITY	seniority-based/ frequent layoffs	merit-based/ avoid layoffs	lifetime employment/ no layoffs
WORKERS' AND MANAGERS' STATUS	sharp status distinction	sharp status distinction	egalitarian, status differences muted
TRUST	minimal	medium	maximal
UNIONS	strong	nonexistent	weak
LABOR RELATIONS	adversarial	–	cooperative

is characterized by a high degree of specialization among (deskilled) production workers, highly adversarial union-management relations, job-control oriented unionism with minimal employment security, and sharp status differentiations between labor and management. What security workers do have is based on seniority and on a system of rigid, noninterchangeable job classifications. Wage rates are tied to specific jobs, and pay differentials are minimal.

In contrast, the Japanese "lean production" model or "Toyotism" is based on extensive worker participation in the micro-management of production, most notably through the use of quality circles and other small groups. While individual tasks are deskilled (as in traditional Fordism), workers are multiskilled in that they learn several different (deskilled) jobs and they can be flexibly deployed as production requirements shift. Job rotation and the use of flexible work teams are common. Status distinctions between workers and managers are muted, and job security is high—in the extreme case, workers are guaranteed "lifetime employment." Wage levels are tied not to jobs but instead to seniority, and older workers earn considerably more than their younger co-workers. Labor relations are cooperative rather than adversarial, and unions help foster trust and cooperation between workers and management.

Many commentators argue that not only in its high productivity and quality, but also from the viewpoint of workers themselves, Toyotism compares favorably to the traditional "American" system of work organization, primarily because blue-collar workers are so fully involved in improving the production process. At NUMMI, for example, the Japanese word *kaizen* (continuous improvement) is part of every worker's vocabulary. All production workers are organized into flexible teams that rotate jobs among their members and meet regularly to discuss how the efficiency of the operations they perform could be enhanced. In sharp contrast to the many markers of status that were salient when the plant was run by GM, managers and workers at NUMMI wear the same clothes and share the same parking and cafeteria facilities. Management is defined not as supervision but as leadership: each team has a "team leader" and at the next level up there are "group leaders" (roughly equivalent to foremen at GM). Although it does not offer "lifetime employment," NUMMI's contract with the UAW includes a pledge that no

workers will be laid off without first cutting management pay and taking other cost-cutting measures. To date, despite slow sales, there have been no layoffs.[8]

This system has its critics. Mike Parker and Jane Slaughter, for example, who call it "management by stress," emphasize the fact that it greatly intensifies the pace of work. They also warn that the "team concept" undermines unionism in the name of a dubious form of worker participation in management decisions. At NUMMI, they argue, workers mainly "participate" in the intensification of their own exploitation, mobilizing their detailed knowledge of the labor process to help management speed up production and eliminate wasteful work practices. But even Parker and Slaughter acknowledge that workers themselves tend strongly to prefer the current set-up over traditional "American" managerial methods. At NUMMI, they report, "nobody says they want to return to the days when GM ran the plant."[9]

Both critics and advocates of the system often take NUMMI and the other Japanese auto transplants as representative of management methods in Japanese-owned plants in the U.S. However, a closer look suggests that this is not the case, at least outside the auto industry. NUMMI demonstrates that "Toyotism" or "lean production" and the accompanying worker participation process can be transferred to the U.S. But it does not necessarily follow that Japanese-owned plants in the U.S. will always choose to use it. As Table 13 shows, most such plants in California bear little resemblance to either NUMMI or their parent companies' plants in Japan—which themselves use a wider range of management methods than is often presumed.

The California plants instead resemble the Japanese-owned firms that Harley Shaiken and Harry Browne studied in Mexico, where managers "seem to be satisfied with using traditional quality control and work organization methods to achieve internationally competitive quality and costs, passing over the techniques that are credited with bringing their parent companies stunning success in both categories." Almost none of the managers Shaiken and Browne interviewed at Japanese-owned plants in Mexico had ever heard of *kaizen*, and very few of these plants had anything resembling quality circles.[10] Similarly, Japanese-owned firms in Southeast Asia seldom use the participatory management practices their parent companies are known for.[11] The same is true of most of the plants shown in

Table 13. How "Japanese" Are California's Japanese-Owned Plants?

Plant Code	Japanese Top Manager?	Japanese as % of Managers?	Just-in-Time?	Has QCs?	Other small groups?	Suggestion Program?	Flexible Teams?	Job Rotation?	Number of Job Classifications	Recent Layoffs?	Employs Temps?	Calis-thenics?
A	yes	100%	no	no	yes	yes	no	no	1	no	yes	no
B	no	4%	no	no	no	yes	no	no	58	no	no	no
C	yes	3%	no	no	no	yes	no	yes	6	yes	yes	no
D	no	0	no	no	yes	yes	no	no	4	no	yes	no
E	no	20%	no	no	no	yes	no	yes	25	no	yes	no
F	yes	2%	yes	yes	no	no	no	no	4	no	yes	yes
G	no	8%	yes	no	no	no	no	no	10	no	yes	no
H	yes	12%	yes	no	yes	yes	no	no	4	no	yes	no
I	yes	3%	no	no	yes	yes	no	no	12	yes	yes	no
J	no	1%	no	no	no	no	no	yes	5	no	yes	no
K	yes	1%	no	no	no	yes	no	no	9	yes	no	no
L	yes	14%	no	yes	no	yes	no	no	13	no	yes	no
M	yes	25%	no	no	no	yes	no	no	4	yes	yes	no
N	yes	1%	no	no	yes	yes	no	no	60	yes	yes	no
O	yes	3%	yes	no	yes	yes	no	no	20	no	yes	no
P	no	0	no	no	no	yes	no	no	15	no	yes	no
Q	no	1%	no	no	yes	yes	no	no	8	no	yes	no
R	yes	66%	no	no	no	yes	no	no	6	yes	yes	no
S	yes	33%	no	no	no	yes	no	no	17	yes	yes	no
T	yes	1%	no	no	yes	yes	no	no	6	yes	yes	no

Table 13. Like those in Mexico and Southeast Asia, these Japanese-owned plants in California are branch plants that perform relatively routinized, low-skill assembly or fabrication, while the more complex phases of the production process remain in Japan itself. Whereas the highly capital-intensive and technologically complex process of automobile assembly may warrant the investment in training required to establish Toyotism in the U.S., a human capital investment of this scale is more difficult to justify for the relatively simple operations most of these plants perform. A crude index of this might be the total value of a plant. The median figure provided by the plants responding to a question about this on our survey was $24 million, whereas NUMMI reported a value of $700 million.

The California plants typically fit neither the American mass production model nor the Japanese model. Instead most use a third system, shown in column B of Figure 3, which is intermediate between the two on most dimensions, but definitely American in origin. This is the nonunion industrial relations model, an American alternative to Fordism that emerged in the 1960s and 1970s. In this system, workers have some opportunity to participate in decision-making, with a corresponding increase in trust between labor and management, although both participation and trust are less extensive than in the Japanese model. One key feature differentiating this model from *both* Fordist mass production and the Japanese model is the absence of any form of unionism and a strong managerial commitment to avoid unionism. As Fred Foulkes pointed out in a classic study of this system, in these firms, managers

> honestly believe that their company can perform all of the services a union performs; therefore in their organization a union is unnecessary. This is why they look upon union organizational drives as indications of inept management and management failures. . . . The top managements of these companies. . . want the employees to have confidence in them and to believe in them, and they take many steps to establish and maintain this trust, confidence and credibility. . . . [There are] many activities whereby management is either performing the union funciton or is enhancing its credibility with employees. Management, therefore, attempts to create and maintain a climate in which the idea of a union, for at least the majority of the company's employees, is either unnecessary or irrelevant.[12]

Among the policies such firms rely on are highly developed communications programs (including complaint procedures), merit-based promotion from within (internal labor markets), and employment security policies. To compete effectively with unionized firms in the same industry (if any exist), such firms offer wages and benefits comparable to those of the unionized firms.[13] It is this nonunion American model, rather than "Toyotism" or "lean production" as found in Japan, that best describes the typical Japanese-owned manufacturing firm in California. In short, NUMMI turns out to be the exception rather than the rule.

A wide variety of specific practices are associated with the three models of work organization and management shown in Figure 3. The rest of this chapter examines several sets of practices which are often taken to distinguish the Japanese model from the traditional Fordist management system. The first set involves worker participation schemes such as quality circles and other small groups, suggestion programs, and other devices that enhance "communication" between workers and managers and diminish the perception of conflicting interests between the two. The second set of management practices is closely related to the first, and comprises efforts to increase the flexibility of labor, such as organizing workers into flexible teams with job rotation, cross-training, and reducing the number of distinct job classifications. A third set of management practices, discussed more briefly here, involves payment systems. A fourth promotes stability in the labor force (or job security from the workers' perspective), such as no-layoff policies. Finally, there are practices associated not so much with human resources as with the organizational logic of "lean production," such as just-in-time delivery and extensive reliance on subcontracting.

In all but one of these areas, the Japanese-owned plants in California bear little resemblance to the Japanese management model. Relatively few have quality circles or the equivalent; flexible teams are even more exceptional; and most of the managers we interviewed laughed outright when asked about just-in-time delivery and the like. One "Japanese" practice is more typical in these plants, however: most are committed, in principle, to avoiding layoffs. However, even this is tempered by the fact that these plants typically have very high turnover rates, so that to some degree workforce reductions can be accomplished in response to business fluctuations without resorting to layoffs. In

short, these plants resemble American nonunion manufacturing, rather than the Japanese system. In fact Foulkes' classic description of personnel policies in large nonunion U.S. firms (some of which even have no-layoff policies) matches the reality of most of these companies far better than any account of the Japanese model.[14] This both reinforces and is reinforced by the fact that most of the human resource managers in these plants are not only Americans, but are often individuals trained and experienced in American manufacturing firms. Although they typically report to executives who are Japanese nationals, these American managers are seldom asked to implement "Japanese" management principles.

Quality Circles and Participation

One of the most widely discussed features of the Japanese model is its emphasis on worker participation, and especially the use of quality circles (QCs) or similar small group activities, to improve efficiency and to promote harmony between labor and management. The basic idea behind the participatory programs is that workers know more about the production process than anyone else, and that mobilizing this knowledge is critical to successful management. As a Toyota auto workers' union official I interviewed in Japan put it, whereas in the U.S., engineers and managers often "assume that the laborers are stupid . . . in Japan, the view is that the plant workers make up for what is lacking in the engineers." A NUMMI worker made the same point. When GM ran the Fremont plant, he recalled, there were 50 engineers. "So they had 100 eyes, 100 ears, and 50 brains. Now, we have 5000 eyes, 5000 ears, and 2500 brains," since not only engineers but the whole workforce is involved in NUMMI's *kaizen* process.[15]

The QC concept originated in the U.S., but the practice became far more widely institutionalized in Japan, starting in the early 1960s. By 1984, 60 percent of all business establishments in Japan with over 100 employees had QCs or the equivalent, and the proportion rose to 84 percent for establishments with over 5000 employees. Small group programs are especially pervasive in Japan's manufacturing sector. Regardless of sector, where such programs exist, typically more than 90 percent of employees participate.[16]

In the U.S., QCs and similar small groups were institutionalized to a much lesser extent, and later, than in Japan—and largely in response to the success of Japanese industry. Data on the use of QCs and related programs in this country are difficult to come by; most studies suffer from very low response rates and other problems. The best recent data come from a 1987 survey of large firms in the U.S. conducted for the General Accounting Office (GAO). This survey found that 70 percent of the companies reported using either QCs or some other type of small group participation. However, in most cases the programs included a relatively small portion of the workforce. At 32 percent of the manufacturing firms surveyed, 20 percent or more of employees participated in QCs; only 13 percent of the manufacturing firms reported that more than 40 percent of their employees were in QCs. The figures were slightly higher for employee participation groups other than QCs: 37 percent of the manufacturing firms reported that 20 percent or more of their workers were in such groups, and at 17 percent of the manufacturing firms, more than 40 percent of employees participated in them.* The GAO survey found that, as in Japan, the use of QCs and other small groups is more common in manufacturing firms than in service industry firms.[17]

Our survey of Japanese-owned manufacturing plants in California with over 100 employees found that about 35 percent had QCs for at least some of their hourly workers. This is strikingly similar to the figure in the GAO survey for large manufacturing firms, although the two surveys are not strictly comparable.**

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* These figures cannot simply be added to those for QCs for purposes of comparison to the Japanese data cited above, since some firms had both QCs and other types of small groups.

** The questions were formulated differently; our survey did not ask about the proportion of employees involved in QCs; I surveyed *plants* (with a median size of 275 employees) whereas the GAO study surveyed *firms* (with an average of 9000 employees), many of which have several plants. Although one can only speculate about the effects of these differences, it is reasonable to think that they might cancel each other out. On the one hand, the large average firm size in the GAO study should make the frequencies of QCs higher than they would be otherwise, since large firms are more likely to have QCs than small ones. On the other hand, the fact

Only two of the 20 plants that we visited had QCs, but eight others had some other type of small group participation for at least some of their blue-collar employees. These programs were typically quite limited, however. For example, in one plant a few department managers (but not others) hold occasional meetings with workers to discuss production problems and quality issues. At another plant, all blue-collar workers are required to attend quarterly meetings, for about an hour, where issues are identified for subsequent management attention. A third plant forms problem-solving project teams on an ad-hoc basis; each such team includes two hourly workers but is made up mainly of engineers and managers. Another plant holds short (10-15 minutes) morning meetings led by the supervisor in each department to discuss problems from the previous day and plans for the day.

One of the two plants we visited that had QCs (Plant F in Table 13) also had many other trappings of the Japanese model. This was the only plant we visited where workers actually participated in organized calisthenic programs (a standard practice in Japan), although the program has recently been scaled back from a daily to a bi-weekly ritual. Currently the calisthenics are part of a shift-wide meeting where managers give informational speeches to the assembled workforce. In the past, this plant had also held informal gatherings of employees at the end of the workday to discuss production problems; these meetings have now been supplanted by the QCs. This plant also organizes all its production employees into "profit and loss" centers, or mini-enterprise units, with regular meetings to keep everyone informed about each unit's progress (discussed in more detail below).

This plant is exceptional, however. While our sample size is too small to draw any definitive conclusions, the Japanese-owned

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that some firms have QCs and other small groups for only a small portion of their employees may lead to an exaggeration of the frequency of QCs in the results of our survey of California's Japanese-owned plants. The GAO survey found that 70 percent of the manufacturing firms surveyed had QCs for 1 percent or more of their employees, and 75 percent had employee participation groups other than QCs for 1 percent or more of their employees. These levels are far higher than those found in our survey, which did not inquire about the proportion of employees involved in QCs but simply asked, "Are there quality circles for hourly workers?"

manufacturing firms generally appear to resemble American nonunion manufacturing firms more than their parent companies in Japan as far as the extent to which QCs and similar employee involvement programs are used. There are also qualitative differences between QCs in Japan and those at Japanese-owned firms in California, in part reflecting differences in the composition of the labor force in the two settings.

I was invited to observe a QC meeting in progress at Plant L at the time of my visit. Like most Japanese-owned plants in Southern California, the workforce here was made up almost entirely of immigrants. The plant cafeteria, where the QC meeting I attended took place, was decorated with some 20 flags—one for each of the countries represented in the workforce. Although the national diversity of the workforce was celebrated in the wall decorations, it presented serious problems in the QC meeting, since many workers had a limited command of English and no single language was shared by the entire group. The meeting I witnessed was facilitated by a woman manager who frequently prompted the workers who spoke, and there was almost no unsolicited participation in the discussion. Furthermore, supervisors at the plant, according to another manager in this plant, view the immigrant workers in their charge as "simple people—even though the QC process reveals how smart they really are." Despite the existence of QCs at this plant, then, it is a far cry from the participatory model that strives to maximize the involvement of blue-collar workers in streamlining the production process.

In another plant, one of the few where our management informants were Japanese nationals, there had once been an effort to set up QCs, but "it didn't work because the workers didn't really understand the techniques." The educational level of the largely Hispanic workforce in this plant is quite low, the managers stressed, and this was a serious obstacle to the QC effort. "Some of the workers are smart, but they don't have any knowledge of QC techniques, such as fish diagrams and root cause analysis, and they lack the math skills that managers take for granted in Japan." The difficulty was compounded by the language problem, which obstructed communication between workers and management. At another plant a manager who had also tried setting up QCs reported similar difficulties of language and workers' inadequate educational background; he too had abandoned the effort.

A manager I interviewed at a roller bearing plant in Japan recounted yet another story of a failed effort to establish QCs at his firm's plant in Michigan. Here there was no language problem; the workers were native-born and spoke English. In this case, the program failed because neither the workers nor the local (American-born) management correctly understood the purpose of the QC program. "In Japan, QCs choose very minor problems for subject matter," this manager reported. "But in Michigan they selected [a] big subject. They all wanted to be big shots, to save $200,000 or something. They wasted a lot of time on this big subject. That's wrong. Management also misunderstood." As a result of these difficulties, the Japanese parent company decided to eliminate the QC program at this plant.

Despite the educational deficiencies of the U.S. workforce relative to Japan's, and the language problems associated with extensive employment of immigrants, virtually all the managers interviewed expressed general satisfaction with the workforce they employed. Moreover, the lack of educational background and even the language difficulties can be overcome with proper in-plant training programs, as demonstrated by NUMMI and the similarly successful Mexican auto plant discussed above. But in the Japanese-owned plants in electronics and other industries in Southern California, there seems to be little effort along these lines. Instead, the plants are managed like American nonunion manufacturing plants. There is some employee involvement and participation in these firms, but the typical goal is to promote communication and trust between workers and management (as part of a union avoidance strategy) rather than to engage workers intellectually in the management of production.

In most of the plants in Table 13 (17 of 20), employee suggestion programs were in place. However, in most of these cases (11 of 17), managers reported that the programs were largely inactive. "The suggestion boxes get filled up with cigarette butts and dirty pictures," one manager told us. At another plant a suggestion program was in place but the human resources manager was unaware of it himself until his assistant mentioned it during our interview! In contrast, the well-functioning suggestion programs were actively promoted, with consistent follow-up to make sure suggestions were seriously considered and prizes awarded for those suggestions that were actually used. Even in Japan, suggestion programs at Toyota and Nissan

(instituted in the 1950s and modeled after Ford's program in the U.S.) languished in the 1960s until managers set suggestion quotas and linked the programs to QCs in the 1970s. The result was that suggestions per worker per year rose as high as 32 in the early 1980s.[18]

Whether or not they had formal employee involvement or suggestion programs, most of the human resource managers we interviewed were concerned about improving communications between workers and managers. While language was sometimes a barrier here, most of our management informants characterized communication as "good," especially between workers and first-line supervisors (most of whom were bilingual). Many plants had newsletters and sponsored various social events (picnics, Christmas parties, sports events, etc.) which they cited as promoting better labor-management relations and improved communications. In general these managers actively sought to promote trust between workers and managers. To that end, most of the plants use an "open door policy" to encourage workers to come forward with complaints, which are typically resolved informally rather than through any official grievance procedure, except in the few unionized plants. "You should feel free at all times to discuss your concerns and problems with your direct supervisor or other appropriate member of management," reads a typical employee handbook. "We know that you want and are able to express your problems, suggestions and comments to us so that we can understand each other better."[19]

While most managers expressed a desire to break down barriers between management and workers, hardly any of the plants (only two of the 20) carried this to the point of having white- and blue-collar workers wear the same uniforms, as is common in Japan and at plants like NUMMI. Most plants also had reserved parking spots or separate parking lots for management, and it was rare for managers and workers to share the same dining rooms. Both NUMMI and Toyota's nonunion Kentucky assembly plant have received a great deal of favorable publicity for their democratic uniform policies, first-come-first-serve parking lots and integrated cafeterias. These are often considered "Japanese" practices, and they can be found at many factories in Japan. Ironically, however, at Toyota's plants in Japan, the executives (middle management and higher) have a separate dining room, do not always wear uniforms, and have

parking spots assigned according to their rank.[20] In the U.S. auto industry, with its legacy of sharp status distinctions between managers and workers, these issues may be more salient than in Japan. And in the nonunion auto transplants, they are part of a union avoidance strategy.

With few exceptions, California's Japanese-owned plants do not conform to the "Japanese" pattern of participative management. QCs and other small groups are not much more common than in American manufacturing generally, and even where they do exist their effectiveness is questionable. In general these plants emphasize building channels of communication and trust between workers and management, rather than intensive worker participation in improving productivity and quality. The egalitarian practices of the auto transplants are also absent in most of these plants; rather their human resources policies closely resemble those of American nonunion manufacturing firms.

The Team Concept and Labor Flexibility

Another characteristic feature of the Japanese management model, closely related to QC and small group participation, is the organization of workers into self-managed, flexible teams, sometimes labeled the "team concept." At NUMMI, for example, production workers are organized into teams of six to eight people, each with a team leader. Team members rotate jobs and make collective decisions about how to manage the parts of the production process for which they are responsible.[21] Even where team organization is absent, under the Japanese system workers are cross-trained to perform a variety of tasks, and job classifications are vague and few in number. This maximizes management's flexibility in deploying workers as needed and also reduces the boredom and monotony inherent in traditional manufacturing production jobs.

Like small groups, the team system seems to be more characteristic of the Japanese auto transplants than of Japanese-owned plants in other industries. In fact, most of the managers we interviewed were unfamiliar with the team concept as used at NUMMI. (Quite a few had never even heard of NUMMI itself.) When asked if any production work in their plant was organized in teams, these managers frequently answered affirmatively at first, but further probing revealed that they were referring to a general

emphasis on cooperation or the use of rhetoric about the importance of teamwork, rather than flexible, self-managed work teams like those at NUMMI.* One plant actually had "team leader" and "group leader" among its regular job titles, but these turned out to be ordinary lead workers and supervisors. Another plant had a program whose title included the word "team" and the manager we interviewed said that the plant eventually hoped to move toward the team concept, but it had not yet done so. Self-managing work teams are quite rare in U.S. manufacturing as a whole; according to the GAO survey only 9 percent of large manufacturing firms have such teams for more than 20 percent of their workforce, and none of those surveyed have them for more than 40 percent of their workforce.[22] The Japanese-owned plants we visited conformed to this pattern; in fact not a single one of the 20 had work teams of the NUMMI sort for their hourly workers at the time of our visits.

The one case that came close was Plant F, an electronics plant that organizes its workers into mini-enterprise units. These range in size from small units of three to four workers to large ones of 80 to 120. Each unit operates as an autonomous "profit and loss center," buying and selling from other units within the firm (or from outside in some cases) and trying to minimize costs and maximize prices. For production work, the units coincide with the departments of the plant, and department managers keep track of the accounting details, informing workers (90 percent of whom are female) on a monthly basis of the unit's profits and losses. While this reportedly promotes cost-consciousness among workers, it is a far more top-down system than the self-managed teams that exist at NUMMI and other Japanese auto transplants. In addition, this plant has no regular system of job rotation, although it is the most "Japanese" of the plants we visited in other respects (it is the only one with a calisthenics program and one of the two with QCs). On the other hand, most of the plants I visited

* This emerged as a serious problem with our survey, since some 40 percent of the respondents indicated that they did organize production work in "teams." It became clear during plant visits, however, that most of these answers were inaccurate and based on our poor formulation of the question and/or the respondent's unfamiliarity with the type of teamwork we had in mind.

in Japan did not have the team system either—it seems to be more common in the auto industry there as well as in the U.S.

Three plants among the 20 we visited in Southern California had regular job rotation for production workers. In all three cases, managers reported that the intent was to offer relief from especially heavy or fatiguing jobs. In one case the plant had experienced high rates of repetitive motion injuries, according to a union organizer who had tried (unsuccessfully) to recruit its workers. The organizer suggested that the reason for the job rotation was to keep the plant's workers' compensation costs down. In another plant where assemblers rotate jobs every two hours, our management informant reported that this system had been introduced some ten years ago in response to a union organizing drive, not as part of any effort to use Japanese management methods.

Asked why they did not use job rotation, some managers in other plants expressed the view that quality was higher and more consistent when each worker did a single job. In another case, acknolwedging that in the parent company's plant in Japan job rotation was used, the manager we interviewed in California pointed to the higher educational level and greater skill versatility of Japanese workers, and suggested that they are easier to cross-train than their counterparts in California—echoing the explanation we heard for why QCs are less often used here than in Japan. In another firm, however, neither the parent company plant in Japan (which I also visited) nor its California plant used job rotation.

Although relatively few Japanese-owned plants in California use the team system or any regular job rotation systems, about half of those we visited did have some form of cross-training or multi-skilling for their hourly workforce. Cross-training (training individual workers to perform two or more different jobs) maximizes flexibility and allows management to deploy workers as needed to a variety of machines as workload and opportunity permit, or to cover for absentees. One plant had charts on the walls in each work area, showing the extent of cross-training that had been achieved by each worker in the area, but even here there was no regular job rotation system. Elsewhere cross-training seemed to be oriented primarily toward increasing the flexibility of labor deployment, mainly for "back-up" purposes. In all 20 plants, virtually all training, whether for one job or for more, was done on-the-job. Several plants did have a brief orientation program for new workers, but this was in no case more than half a day, and it was typically unrelated to the content of the day-to-day work.

Closely related to flexibility is the question of job classifications. Whereas U.S. manufacturing, especially in unionized plants, traditionally included relatively large numbers of job classifications with clear boundaries between them, the Japanese model is generally associated with a minimal number of broad classifications. Among the 49 plants that answered our survey question about this matter, the number of job classifications for production workers ranged from two to 120, with a median of eight classifications. In interviews several managers indicated that they hoped to merge classifications in the future, however. (At NUMMI, there are only three classifications, and all the production workers are in a single classification.)

In short, both the absence of teams or regular job rotation and the relatively rigid job classification systems in most of these plants, like other aspects of their work organization, do not resemble their parent companies' plants in Japan as much as they do nonunion manufacturing plants in the U.S. The same is true of wage payment practices, to which we now turn.

Wage Payment Practices

The team concept, job rotation, and cross-training function much more smoothly if wage rates are determined on a predictable basis. At NUMMI, where virtually all production workers earn the same pay (except team leaders, who get a small premium), cooperation among team members is never undercut by resentments over differential pay rates. The same is true under the *nenkō* wage payment system that prevails at large manufacturing plants in Japan (but rarely at small firms in this dual economy), where wages are based mainly on age and seniority in the context of a lifetime employment system. Here too pay differences among individuals do not impede teamwork or flexibility, since all workers are treated similarly over the course of their life cycle.[23] Even the Japanese auto transplants in the U.S. have not attempted to emulate the *nenkō* wage system; instead they conform to the pattern set long ago by the unionized Big Three domestic auto firms, where wages are based entirely on job

classification and where pay differentials among production workers are slight.

The Japanese-owned plants in Southern California that we visited are all owned by large firms in Japan, but their wage and promotion systems bear no resemblance to either the *nenkō* system or the pattern characteristic of the domestic auto industry. Instead, at these plants, starting pay rates are directly linked to job classifications, and within classifications individual wages are shaped by some combination of seniority and ability, with ability usually playing the dominant role. Most plants have substantial wage spread among their hourly workforce, with the best paid individuals typically earning two or three times as much as the worst paid. Except in the few unionized plants, each worker is evaluated biannually, and promotions and raises are awarded on this basis. In some of these plants, seniority has an influence on wages, but in most ability or "merit" is considerably more important—at least officially.[24]

In the case of the low-wage, low-skill production workers who make up the bulk of the hourly workforce at most of these plants, however, merit is narrowly defined: attendance (the most frequently mentioned item), punctuality, quality and quantity of work, and "attitude" are the usual criteria, not creativity or initiative. As one manager at a plastics plant put it, "we're not looking for the MBA type." An employee handbook summarized the typical notion of merit: "Your job has been awarded to you based upon your previous experience, education, training, ability, attendance, safety record, and attitude. Future job assignments and promotions will be made in the same manner." Many plants had instituted additional incentives for good attendance, tying it not only to raises and promotions but also to special rewards (cash bonuses, gifts, and/or public commendation) for perfect or near-perfect attendance, or for foregoing sick days. Most plants also had progressive discipline systems to punish excessive absenteeism.

Some plants provided workers with occasional free lunches or desserts as a reward for high production or low accident rates; a few gave out sweatshirts and other small gifts. Some plants (four of the 20 visited) had profit-sharing programs, not much different than the proportion in the U.S. economy as a whole. Eight of the 20 firms (including one of those with profit-sharing) paid annual or semi-annual bonuses to hourly workers. However,

these bonuses were quite modest (equivalent to earnings for at most a week or two) by Japanese standards, where they often amount to five or six months' pay and are not tied directly to profits.[25] In general, the highly individualized, merit-based payment systems used by these plants, like other aspects of their work organization, are similar to those in nonunion American manufacturing.

No Layoff Policies and Worker Attachment to the Firm

The one area in which Japanese-owned plants in California do conform more closely to Japanese management practices involves employment security. The majority of these plants are committed to avoiding layoffs of hourly workers whenever possible, and many have *de facto* "no layoff" policies that have yet to be violated. Among 49 plants that responded to our survey question on this issue, about two-thirds (64 percent) reported that they had had no layoffs over the previous five years. Similarly, among the 20 plants we visited, 11 had never laid off hourly workers, and a twelfth had not done so since 1974. The layoffs that did take place in the other eight plants usually affected small numbers of people and were often brief. It might be objected that many of these plants were opened or acquired since the last recession, so that their no-layoff policies have yet to be seriously tested. However, six of the 11 firms that reported no layoffs in their entire history had opened or been acquired before 1980.

Some of the American managers we interviewed stated that they would prefer to be able to lay workers off, but that "the Japanese are against this." In one large metals plant, the manager reported disapprovingly, when parts of the plant are shut down due to lack of business, workers are not laid off but instead moved to other areas, and are still paid for the highest job they are qualified for. "The Japanese fear layoffs, which they think invite unionism. They don't understand that American workers don't have any liking for lifetime employment," this manager told us. "They like layoffs—especially in Southern California." In another case, a manager in a health care products plants complained that the *de facto* no-layoff policy protected "bad workers." A third manager, at a Japanese-owned plastics plant which has never laid anyone off, reported with apparent amazement that when things are slow, people are put to work cleaning up the plant. He

compared this to his previous experience in American industry, where "people would be laid off at the drop of a hat." Indeed, while some U.S.-owned firms do have no-layoff policies (especially in the nonunion sector), they have never been in the majority, and their numbers have dwindled recently under competitive pressures.[26]

Among the plants we visited with no history of layoffs was one that opened in 1972. When faced with a business downturn in the early 1980s, this plant introduced a work-sharing program to avoid layoffs, with all employees working three days a week instead of five. Another plant that opened in 1976 and that has had several layoffs since then recently introduced work-sharing as well, and at the time of our interview was operating with a four-day work week for all employees. The manager we interviewed at this plant claimed that this schedule was popular with the immigrant workers employed there, since many of them did odd jobs "off the books" on the fifth day of the week to supplement their incomes. The work-sharing policy also was highly effective for the company in retaining labor, he reported. Another manager who had tried to establish a QC program at his plant indicated that the one layoff that workers there had experienced undermined the program to such a degree that the firm was now determined to avoid future layoffs of the regular workforce, limiting any dismissals to temporary workers.

Indeed, this is standard practice in Japan, where the permanent workforce in large firms enjoys "lifetime employment" at the expense of temporary or part-time workers (often women) working directly for the firm or for its subcontractors. The no-layoff policies that are common at Japanese-owned plants in this country are not fully equivalent to "lifetime employment," but both forms of employment security are often predicated on the existence of a more expendable temporary workforce. With the exception of two unionized plants where the union contract prohibited or restricted the practice, all of the plants we visited used at least some temporary workers. One manager was explicit about the link between the no-layoff policy and the use of temporary workers. "We don't use the L-word here," he said. "Instead we used leased employees." Nonunion plants in the U.S. with no-layoff policies also typically rely on temporaries as a cushion. A recent survey conducted by the Bureau of National Affairs (BNA) found that 74 percent of the U.S. manufacturing

firms responding used agency temporaries, and 56 percent used "short-term hires."[27]

Most of the Japanese-owned plants recruit temporary workers through outside agencies, though a few hire them directly "off the street." One plant reported that it interviews prospective workers directly but then sends those it plans to hire to a temporary agency; another suggests to all workers who inquire about jobs that they apply via the agency. Temporaries are typically paid less than the rest of the hourly workforce and receive no fringe benefits (though some may receive limited benefits from the agency). At one plant that makes extensive use of temporaries, the manager indicated that they are excluded from the QC program and do not receive the uniforms issued to other hourly workers. In some plants, workers reportedly remain "temporary" workers for years, but in other plants the pool of temporaries is used to recruit permanent workers, so that temporary status is equivalent to a probationary period.

While the frequency of no-layoff policies sets the Japanese-owned firms apart from their U.S.-owned counterparts, this is less true in regard to the use of temporary workers. The BNA survey mentioned earlier found that in most U.S. firms, temporaries account for less than one percent of the regular workforce, and rarely more than 6 percent.[28] At the Japanese-owned firms in Table 13, however, temporaries often comprised a more substantial proportion of hourly workers—as many as a third in some cases, typically 5 percent or less.

The no-layoff policies of these firms rest on another cushion as well: high turnover, especially in the electronics plants and others where wages are relatively low. One electronics plant manager attributed the high turnover in entry-level jobs, which had climbed to 4.5 percent in the most recent *month* on record at the time of my visit, to the fact that "workers care about cents per hour and will leave for 50 cents more per hour down the street at K-mart." (There is in fact a K-mart warehouse next door to this particular plant.) While this was the highest turnover figure reported in our interviews, at about half the plants turnover was characterized as "high," with those managers who reported actual figures citing rates from 17 to 28 percent annually.[29] These rates compare to a national average for manufacturing of about 13 percent (although rates were slightly higher on the West Coast).[30] One factor contributing to high turnover rates was the

presence of strict absenteeism policies; some managers indicated that poor attendance was a major cause of firings, though others were more lenient.

In many plants, both firings and quits (the major components of turnover) were largely confined to the lowest-paying jobs; workers who rose into better-paid positions, in contrast, sometimes had turnover rates that were *lower* than management desired. "We would like to have more turnover in the assembly group," one manger of a food products plant said, "because these are hustle-bustle jobs and it's hard for the older workers to keep up." Another manager in a large electronics plant that opened nearly 20 years ago also was concerned that turnover was not higher. "While many of our employees are young men who move on to other things after a few years, some of the people here have been around for a long time, and we're having some problems of motivation with them," he complained. A third manager suggested that the auto accessories plant he worked for "would actually be happier to have a bit more turnover, to help keep the wage bill down." It appears that the high turnover rates characteristic of these plants are not entirely unwelcome. For some firms, they even may be the functional equivalent of layoffs, in that as business slows the workforce can be reduced substantially by attrition.

The existence of *de facto* no-layoff policies at the majority of these plants (albeit mitigated by high turnover rates and made possible by extensive use of temporaries), and the infrequency with which layoffs occur at the rest, is their most "Japanese" feature. Yet even no-layoff policies are characteristics of many domestic nonunion firms, after which California's Japanese-owned firms seem to model their human resource policies and practices.

"Lean" Production and the Just-in-Time System

It is not only their human resource policies that generally set the Japanese-owned plants in California apart from their parent companies' plants in Japan; in addition, most appear to lack the much-celebrated "lean" production system used widely in Japan. Lean production, according to the authors of the MIT auto industry study who coined the term:

> is "lean" because it uses less of everything compared with mass production—half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering hours to develop a new product in half the time. Also, it requires keeping far less than half the needed inventory on site, results in many fewer defects, and produces a greater and ever growing variety of products.[31]

While this system of production is certainly transferable to the U.S., as the Japanese auto transplants illustrate, it does not characterize the Southern California firms I studied. Although our data on this issue are far less detailed than on the human resource issues, we did ask managers to compare productivity and quality in the 20 plants with their parent firms' plants in Japan. We also inquired about the extent to which the California plants used subcontracting and just-in-time inventory systems (JIT). While in some cases our interviewees were not well informed about these matters, their responses unambiguously suggest that these plants engage in ordinary mass production, not "lean production."

Perhaps because the managers we interviewed were mostly specialists in human resources, or perhaps because this information is considered sensitive, seven of our 20 management informants pleaded ignorance when asked about the comparison between the productivity and quality levels of their firm's California and Japanese plants. Among those who did respond, only one indicated that productivity was higher at the California plant—an assertion directly contradicted by his counterpart at the same firm's plant in Japan, whom I also had the opportunity to interview. None of the U.S. managers suggested that product quality was superior in the U.S. relative to Japan, although several believed that quality was about the same in both countries. "We can't compete with the productivity level of the plants in Japan," one manager of a plastics products plants said. His counterpart at a steel products plant responded similarly: "They outproduce us by a ton," he said. "They're efficient as can be." Another manager at a ball-bearing plant pointed out that it not only lagged behind its Japanese counterpart plant in productivity, but added that "our company's plant in Thailand is about three times as productive as this [California] one." Similarly, the managers I interviewed in Japan who were familiar with their companies' U.S. operations were unanimous in the view that productivity and quality were far

higher in Japan—indeed some were rather amused by the question. On both sides of the Pacific, most managers attributed the higher productivity of Japanese plants to a better quality workforce. "Workers in Japan are better trained and more highly motivated," was a typical remark. As for quality, the Japanese often attributed the difference to the allegedly higher standards of Japanese consumers relative to their American counterparts.

Four of the 20 plants we visited in California reported JIT systems in place, but in two of these cases this turned out to apply only to output. In practice, this meant that these two plants kept a large stock of final product on hand for delivery to their customers on an as-needed, JIT basis, actually *increasing* the amount of inventory they kept on site. These two plants also maintained substantial inventories of raw materials and parts from their own suppliers. In a third case where JIT was reportedly used, the manager confessed that "it doesn't always work." Elsewhere (in the 16 plants that did not claim to have JIT systems), we often saw vast inventories of both finished products and inputs on our factory tours. A few of the plants we visited were interested in developing JIT systems in the future, but typically they had a long way to go. One manager went so far as to characterize the process of lowering the stock of inventory in place at the time of our visit as "lowering the water level." Another was proud that his firm had recently persuaded its two main domestic suppliers to make *monthly* deliveries. Still another manager joked that instead of JIT they used the "in nick of time" system. A couple of others just laughed when asked about JIT.

By definition, JIT systems are only feasible when many firms in an industry or in linked industries use them; this is not something an individual firm can institute unilaterally unless it is the dominant producer or customer for a given product. Further complicating matters is the fact that many inputs for these Japanese-owned plants are imported. Not only are some of these plants coordinated with twin plants in Mexico (see Chapter 3), but many of them also depend on parts and raw materials, as well as machinery, imported from Japan. Although they produce almost entirely for the domestic market (on average, the plants we surveyed sell 85 percent of their output in the U.S.), the Japanese-owned plants in California that responded to our survey reported that, on average, 67 percent of their sales represented U.S. value added (including parts, materials and labor).[32] While no directly comparable figures are available for domestically owned firms, there is evidence that Japanese-owned firms in the U.S. generally have a much higher propensity to import than other foreign-owned firms, and that the latter import far more than U.S.-owned firms.[33] Obviously it is more difficult to arrange JIT delivery from abroad than from domestic suppliers. On the other hand, the Japanese owned plants we visited did almost no subcontracting, other than some janitorial and maintenance work, so they did not have to coordinate sucontractor deliveries with their own production processes.

In short, these plants resemble the celebrated "lean" production model to an even lesser degree than they conform to the "Japanese" human resource practices that characterize both the Japanese auto transplants in the U.S. and many large manufacturing facilities in Japan itself. In part this reflects the fact that most of these plants perform highly routinized production tasks in their role as export-substitution branches of their parent firms, which continue to carry out the more complex phases of the production process in Japan. Another factor which helps explain why California's Japanese-owned plants are not very "Japanese," however, is that most of them rely on a highly "localized" management staff.

Japanese Plants, American Managers

The Japanese-owned plants that responded to our survey reported that, on average, 14 percent of their management personnel are Japanese nationals. The median figure was only 6 percent. Even if pre-existing plants that were acquired by the Japanese are excluded, an average of only 20 percent of the managers are from Japan, with a median of 10 percent. As one might expect, the Japanese managers who are present in these plants are concentrated at the upper levels. When asked if their top-ranking plant manager is a Japanese national, over half (54 percent) of the responding plants in our survey answered affirmatively, as did two-thirds (67 percent) of the new, "greenfield" plants surveyed. At the other end of the hierarchy, virtually no first-line supervisors at these plants are Japanese nationals. Although this item was not included in our survey, the managers we interiewed did not report a single case of a Japanese first-line supervisor at the 20 plants we visited in California. Similarly, none of the human resource or

personnel managers was Japanese, a point explored in more detail below.

Although our survey is too crude and our sample too small to be definitive on this point, the data do suggest a positive relationship between the extent to which Japanese nationals are represented in management and the use of "Japanese" human resource practices at these plants, as Table 14 shows. Interestingly, the nationality of the top plant manager is unrelated to the presence or absence of such "Japanese" practices. Similarly, there is no consistent relationship between whether a plant was new or acquired and the presence or absence of such practices, even though the greenfield plants, on average, have a higher percentage of Japanese managers than do the acquired ones. The key variable appears to be the extent to which Japanese nationals are actively engaged in running the organization on a daily basis. As Table 14 shows, as the percentage of Japanese nationals among managers rises, so does the frequency with which QCs, teams, and a history of no layoffs are reported.*

Our interview data indicate that an extensive Japanese presence in management is associated with recently opened or newly acquired plants, and with plants that are experiencing special difficulties. Management is more likely to be "localized" (i.e., made up primarily of Americans) once a plant is solidly established and operating smoothly. In such cases the typical arrangement is to employ Americans in line positions, with any Japanese personnel limited to more technical staff jobs, often in engineering-related or liasion functions. Although frequently the top management position in the plant will continue to be held by a Japanese expatriate, in many cases even these jobs have come to be occupied by Americans. "Business activities need to be firmly rooted locally . . . based on careful consideration of the infrastructure and requirements of each area," the annual report of one firm which has operated a plant in Southern California since the mid-1970s explains. This company's "personnel policies and compensation systems are structured to encourage employment of local

* Recall that the survey question about teams was probably misinterpreted by many of our respondents and certainly overstates the frequency with which plants organize production work in flexible, self-managed teams. See the discussion earlier in this chapter.

Table 14

Representation of Japanese Nationals in Management by Frequency of QCs, Teams, and No Layoffs in Past 5 Years, for Large Japanese-Owned Plants in California, 1989

Plant Characteristics	N	Have QCs	Have Teams	No Layoffs in Past 5 Years
All Plants Surveyed	50	35%	40%	64%
Plants with 10% or more Japanese Managers	21	48%	45%	76%
Plants with 30% or more Japanese Managers	6	50%	60%	83%
Plants with Japanese Top Manager	27	41%	36%	60%
Greenfield Plants	30	28%	45%	77%

Source: Author's survey.

citizens rather than simply utilizing Japanese expatriate staff. Of the ten North American affiliates, for example, eight are headed by local management." Several managers at other firms articulated the same corporate philosophy. "According to the principle of globalization," a manager at a Japanese-owned electronics plant explained, "each operational entity in our company is supposed to develop itself locally and recruit an American management staff." In a representative account of this localization process, a manager at a plastics products plant recalled that "two or three years ago they replaced all the Japanese managers with American ones, except for one advisor, who acts as a sort of liasion with the parent company."

However, at an electronics plant we visited, an earlier effort to "Americanize" the management staff had been reversed when problems arose. At another electronics plant, similarly, we were told that the Japanese had not moved to more localized management because of chronic problems and unstable demand for the product. And at a metal products plant that had been acquired by a Japanese investor some time ago, the management had been all-American (with a few Japanese personnel providing technical assistance) until about two years prior to our visit, when profitablity suddenly declined. At that time a team of Japanese managers was brought in to help resolve the crisis, and the American manager we interviewed became "the token Caucasian" on the company's board. While such short-term problems can lead to reversals, in most cases the expectation is a return to localized management in the longer run.

As an alternative to complete localization, a few firms have adopted a "sandwich structure," with "local personnel in middle management reporting to the [Japanese] top management and at the same time assisted by staffs of dispatched [i.e., Japanese] personnel."[34] At an electronics plant we visited, for example, our management informant reported that each subsidiary of his plant's parent firm in the U.S. has a Japanese president, but directly under him is a "round eye," with several Japanese "foreign service officers" making up the next tier in the organizational hierarchy. Similarly, another manager commented that the best-run parts of his organization are sandwiched, with Japanese and American managers working side by side. "It's an international business," he said. "So one good Japanese guy plus one good national guy makes one good manager."

Virtually all the American managers interviewed offered unsolicited comments on the difficulties of bridging the cultural gap between themselves and the Japanese expatriates they worked with, and most were highly critical of the Japanese management style. As other accounts have stressed, many of these managers feel excluded from the inner circle of power and complain that key decisions are made either in Japan or by the Japanese managers on site.[35] The few Japanese managers we interviewed in California were also acutely aware of the tensions between themselves and the American managers. Some felt that despite their strenuous efforts to assimilate to American culture, nothing they could do was enough to please their American staff. "It's a case of unrequited love," one Japanese manager told us.

Many Japanese-owned firms have tried to break down the cultural barriers by organizing trips to Japan for their American staff. All but two of the plants we visited had sent at least a few employees to visit the parent firm in Japan. In most cases only managerial and technical personnel had made the trip, but a few plants also had sent some hourly workers. In some cases the visits were organized primarily for purposes of technical training, especially for engineers and technicians. But many firms also had "cultural exchange" (or what one of our informants called "brain-washing") programs for managers designed to familiarize the staff with Japanese culture and the parent company's traditions. Nonetheless, tension between Japanese expatriates and American staff persisted at most of these plants.

In cases where Japanese nationals were well-represented in management, they tended to be concentrated among upper management and on the engineering staff. Nearly all the plants we visited had Americans (in one case, interestingly enough, a Japanese-American) staffing the human resources area, insulating the hourly workforce from the cross-cultural tensions that were so pervasive among the management staff. Since our interviews concentrated mainly on human resource issues, most of the managers we spoke with were those with responsibilities in this area—although in a few cases we met instead with higher-level managers. In the acquired plants, the human resources managers were often holdovers from the previous management regime. In both new and acquired plants, the human resource managers we encountered had extensive experience in human resources or industrial relations in American industry, usually in unionized

manufacturing settings. Some had previously worked in nonunion firms with human resource practices similar to those the Japanese firms they work for now are emulating.

All of these managers were fully steeped in the ideology of union avoidance; two of them once had been union organizers or staffers themselves, but since that time had adopted the management gospel with a convert's fervor.* One of these individuals, who had worked in human resources at a wide range of companies after leaving the labor movement, and who was also trained as an attorney, told us he was hired by the Japanese specifically because of his expertise in union avoidance. Although no one else we interviewed offered this kind of information, taken together, our plant visits suggest a clear pattern of hiring human resource managers with extensive experience in American manufacturing. This appears to be both a cause and a consequence of the fact that the human resource practices of these firms are more similar to those of American nonunion firms than to those used in large firms in Japan.

* In Japan, where being a union staff member is often a stepping stone to a career in management, this trajectory is even more common; in fact two of the five managers I interviewed at plants in Japan had previously been union officers in the same company they now helped manage.

NOTES

1. See Robert E. Cole, *Japanese Blue Collar: The Changing Tradition* (Berkeley: Univeristy of California Press, 1971), Chapter 1.

2. This is discussed more fully below. For general accounts of this borrowing process, see David Halberstam, *The Reckoning* (New York: William Morrow, 1986); Leonard Nadler, "What Japan Learned from the U.S.—That We Forgot to Remember," *California Management Review*, vol. 26, no. 4 (Summer 1984), pp. 46-61; and above all Robert E. Cole, *Strategies for Learning: Small Group Activities in American, Japanese, and Swedish Industry* (Berkeley: University of California Press, 1989).

3. For detailed discussion of this system as implemented at Toyota's plants in Japan, see Yasuhiro Monden, *Toyota Production System: Practical Approach to Production Management* (Norcross, Georgia: Industrial Engineering and Management Press, 1983); and Michael A. Cusumano, *The Japanese Automobile Industry: Technology and Management at Nissan and Toyota* (Cambridge: Harvard University Press, 1985), Chapter 5.

4. See James P. Womack, Daniel T. Jones and Daniel Roos, *The Machine That Changed the World* (New York: Rawson Associates, 1990), p. 83.

5. Womack et al., *The Machine*, pp. 242-243.

6. See Harley Shaiken, *Mexico in the Global Economy: High Technology and Work Organization in Export Industries* (San Diego: Center for U.S.-Mexican Studies Monograph Series, no. 33, 1990), Chapter 2.

7. Womack et al., *The Machine;* Knuth Dohse, Ulrich Jürgens, and Thomas Malsch, "From 'Fordism' to 'Toyotism'? The Social Organization of the Labor Process in the Japanese Automobile Industry," *Politics and Society*, vol. 14 (1985), pp. 115-146; Mike Parker and Jane Slaughter, *Choosing Sides: Unions and the Team Concept* (Boston: South End Press, 1988); Martin Kenney and Richard Florida, "Beyond Mass Production: The Social Organization of Production and the Labor Process in Japan," *Politics and Society*, vol. 14, no. 2 (1988), pp. 121-158.

8. There is now a large literature on NUMMI. A good overview comparing it to a GM plant which has unsuccessfully sought to imitate the team system is Clair Brown and Michael Reich, "When Does Cooperation Work? A Look at NUMMI and Van Nuys," *California Management Review*, vol. 31 (Summer 1989), pp. 26-44. See also Constance Holden, "New Toyota—GM Plant is U.S. Model for Japanese Management," *Science*, vol. 233, no. 4761 (18 July 1986), pp. 273-277.

9. Parker and Slaughter, *Choosing Sides*, p. 111. An analysis of the Ford-Mazda joint venture in Michigan from a similar point of view is Joseph J. Fucini and Suzy Fucini, *Working for the Japanese: Inside Mazda's American Auto Plant* (New York: Free Press, 1990). This point of view is also common in literature on Japan. See for example, Mutō Ichiyō, "Class

Struggle in Postwar Japan," in *Democracy in Contemporary Japan*, ed. Gavan McCormack and Yoshio Sugimoto (Armonk, N.Y.: M.E. Sharpe, 1986), pp. 114-137; and Dohse, Jürgens and Malsch, "From 'Fordism' to 'Toyotism'?"

10. Harley Shaiken and Harry Browne, "Japanese Work Organization in Mexico," in *Manufacturing Across Borders and Oceans: Japan, the United States, and Mexico*, ed. Gabriel Szekely (San Diego: UCSD Center for U.S.-Mexican Studies, 1991), pp. 25-50.

11. See Magoroh Maruyama, "The Inverse Practice Principle in Multicultural Management," *The Academy of Management Executive*, vol. 2, no. 1 (1988), pp. 67-68.

12. Fred K. Foulkes, *Personnel Policies in Large Nonunion Companies* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1980), pp. 14-15.

13. For detailed discussion, in addition to Foulkes, *Personnel Policies*, see Michael Beer, Bert Spector, Paul R. Lawrence, D. Quinn Mills and Richard E. Walton, *Managing Human Assets* (New York: Free Press, 1984); Thomas A. Kochan, Harry C. Katz, and Robert B. McKersie, *The Transformation of American Industrial Relations* (New York: Basic Books, 1986). From a more critical perspective, this model is analyzed as a form of "bureaucratic control" over labor by Richard Edwards, in his *Contested Terrain* (New York: Basic Books, 1979).

14. Foulkes, *Personnel Policies*. See also Beer et al., *Managing Human Assets*; and Kochan, Katz and McKersie, *The Transformation of American Industrial Relations*.

15. "The Production Process and Labor Relations of UAW Workers and NUMMI Managers: The Worker Perspective," presentation at University of California, Berkeley, Center for Labor Research and Education, February 16, 1989.

16. Cole, *Strategies for Learning*, p. 30; see also pp. 94-99 for discussion of the origin of the quality circle concept in the U.S. and its spread to Japan.

17. The highlights of the GAO survey results are published in Edward E. Lawler III, Gerald E. Ledford, Jr., and Susan Albers Mohrman, *Employee Involvement in America: A Study of Contemporary Practice* (Houston: American Productivity and Quality Center, 1989), pp. 26, 62. The response rate on this survey was 51 percent, with 476 responding firms. The data for manufacturing firms specifically are not included in this publication, but were kindly provided in unpublished form by the Center for Effective Organizations at the University of Southern California.

18. Cusumano, *Japanese Automobile Industry*, pp. 357-359. There are no directly comparable data available for the U.S., but the National Association of Suggestion Systems survey of its member companies found that in 1986 these companies received an average of 1.4 suggestions per eligible employee. Cited in Craig T. Norback, ed., *The Human Resources Yearbook, 1988 Edition* (Englewood Cliffs: Prentice-Hall, 1988), pp. 11-23.

19. Again, this is similar to the discussion in Foulkes, *Large Nonunion Companies*, Chapter 15.

20. For an example of a perspective characterizing such egalitarian practices as typical of "Japanese-style mangement," see Chalmers Johnson, "Japanese-Style Management in America," *California Management Review*, vol. 30, no. 4 (Summer 1988), pp. 34-45. The separate parking lots and cafeterias were discussed in my interview with Toyota union officials in Toyota City, October 8, 1990. For comparison of the parking lots at Toyota City and at Toyota's U.S. plants, see also "Toyota is Gearing Up to Expand Output, Extend Global Reach," *Wall Street Journal*, July 20, 1990, p. A10.

21. See Brown and Reich, "When Does Cooperation Work"; Holden, "New Toyota-GM Plant"; and Parker and Slaughter, *Choosing Sides* for details.

22. Unpublished data supplied by the Center for Effective Organization at USC. (See note 17.)

23. See Cole, *Japanese Blue Collar*, pp. 75-88, for a classic account.

24. See Foulkes, *Large Nonunion Companies*, Chapter 9, for discussion of the "mythical" aspect of the merit principle.

25. According to a survey by the U.S. Chamber of Commerce, 31 percent of manufacturing firms in the U.S. have profit-sharing plans. The survey did not ask about bonuses, however, and is based on an 11 percent response rate. See U.S. Chamber Research Center, *Employee Benefits: Survey Data from Benefit Year 1988* (Washington, D.C.: U.S. Chamber of Commerce, 1989), p. 22. A more inclusive survey by the U.S. Bureau of Labor Statistics found that 16 percent of full-time employees in firms with 100 or more workers had profit-sharing of some kind, but there is no breakdown for manufacturing firms specifically. See "Profit Sharing Today: Plans and Provisions," *Monthly Labor Review*, vol. 114, no. 4 (April 1991), pp. 19-25. Data on bonus programs in the U.S. are much scarcer, especially for nonunion firms. Estimates range from 30 to 44 percent of workers. See Daniel J. B. Mitchell, "Pay Systems and Labor Market Flexibility in the U.S.A.," *The Work Flexibility Review*, no. 1 (February 1991), p. 89. On bonuses in Japan see Kazutoshi Koshiro, "Development of Collective Bargaining in Postwar Japan," in *Contemporary Industrial Relations in Japan*, ed. Taishiro Shirai (Madison: University of Wisconsin Press, 1983), pp. 241-242; and Richard B. Freeman and Martin L. Weitzman, "Bonuses and Employment in Japan," *Journal of the Japanese and International Economies*, vol. 1 (1987), pp. 168-194.

26. See Foulkes, *Large Nonunion Companies*, Chapter 6; and "A Japanese Import That's Not Selling: Job Security Still Hasn't Gained Much Currency in the U.S.," *Business Week*, Feb. 26, 1990, p. 86.